REMARKS

Claims 1 and 4-29 are presently pending in the application. Claims 1, 4, 7, 22, 23, 24, 27 and 28 have been amended, and claims 2 and 3 cancelled without prejudice. No new matter has been added and support for the amendments to the claims can be found in the specification and drawings. In view of the claim amendments and argument presented hereinbelow, Applicants respectfully submit that these claims are now in condition for allowance.

Claim Rejections – 35 U.S.C. § 102(b) and 103(a)

Claims 1, 3-5, 8-12 and 14-19 stand rejected under Section 102(b) as being anticipated by Saito (JP045153952) ("Saito"). Claims 2, 6, 7, 13, 20-22, 28 and 29 stand rejected under Section 103(a) as being obvious in view of Saito. Independent claims 1, 22, 23 and 27 have been amended to incorporate the limitations of claim 2 (cancelled). Accordingly, Applicants will address the rejections on obviousness grounds under Section 103(a). Applicants respectfully traverse this rejection and submit that Saito fails to disclose or suggest the claimed invention.

Claim 1, as amended, calls for a method for receiving an optical double sideband signal over an optical fiber system, comprising the steps of:

> splitting the received optical double sideband signal into an upper sideband signal and a lower sideband signal;
>
> photodetecting said upper sideband;
>
> photodetecting said lower sideband;
>
> *dispersion compensating said photodetected upper sideband signal*;
>
> *dispersion compensating said photodetected lower sideband signal*; and
>
> combining said *dispersion compensated upper sideband* signal with said *dispersion compensated lower sideband signal.* Emphasis added.

The Examiner contends that "[i]t is well known in the art to compensate the dispersion of the optical signal obtained of the optical signal obtained [sic] desired length of the optical pulse. Therefore it would have been obvious to one of ordinary skill in the art to provide optical dispersion compensation in [the, sic] [S]aito optical apparatus to prevent undesired [sic] optical pulse signal." Office Action at page 1, ¶5. Applicants respectfully disagree. While Applicants acknowledge that compensating for chromatic dispersion and polarization mode dispersion (PMD) is known in the art, there is absolutely no teaching, suggestion or mention anywhere in Saito of compensating for dispersion effects by performing such compensation on the individually photodetected upper and lower sideband signals and then combining the dispersion compensated signals as claimed in the present invention. In fact, Saito is completely silent with respect to the issue of dispersion compensation. This feature is now found in independent claims 22, 23 and 27, as amended. Accordingly, it is respectfully submitted that claims 1, 22, 23 and 27, and the claims dependent on claims 1, 22, 23 and 27, are patentable over Saito.

In addition, it is respectfully submitted that Saito fails to disclose or suggest the use of a diversity combiner as called for in dependent claims 5 and 28. As described in the specification, "[a] diversity combiner is a circuit or device for combining two or more signals carrying the same information received via separate paths with the objective of providing a single resultant signal that has equal or superior quality to any of the contributing signals. The diversity combiner of the present invention can select either the better output branch or produce a weighted sum of the two equalized signals, depending on link properties. See specification at page 9, lines 23 – 26. There is nothing in Saito that teaches or suggests such a device. Saito merely states that an "adder 7" is used to combine signals output from the waveform equalizers 4 and 5. See, e.g., ¶14. There is no teaching or suggestion here of a device that can select either the better output branch or produce a weighted sum of equalized signals as described above.

Claims 23-27 stand rejected under Section 103(a) as being unpatentable over Saito in view of either Kim et al. U.S. Patent No. 5,739,866 ("Kim") or Taylor U.S. Patent No. 6,359,716 ("Taylor"). Claims 23 and 27 have been amended to incorporate the feature of independently compensating for dispersion in the upper and lower photodetected sidebands. Accordingly, Applicants hereby reiterate the argument above distinguishing the independent claims from Saito, and respectfully submit that the addition of Kim and Taylor fails to remedy the deficiencies in the disclosure of Saito.

Kim discloses:

> A system and method for modulating a data signal uses a phase shifting transformer function to phase shift the lower and upper sidebands of the data signal so that the sidebands of the data signal have a 180° phase shift with respect to each other (i.e., are complementary). The phase shifted sidebands are added to a standard video signal and then transmitted. A television or other video receiver demodulates the video signal with a simple demodulator circuit, which causes the upper and lower sidebands to be summed together. The data signal, with complementary sidebands, cancels out so that the data signal does not interfere with normal video operation. The upper and lower sidebands of the data signal are processed separately from the video processing circuitry of the television receiver. An inverse phase shifting circuit performs a second phase shift operation on the upper and lower sidebands of the data signal so that the data signal can be demodulated and the data signal recovered. Abstract.

There is nothing in Kim that relates to dispersion compensation effects. Accordingly, this reference fails to remedy the deficiencies in the disclosure of Saito.

Taylor is similarly deficient. As summarized in Taylor, the disclosure provides a:

> Method and apparatus for an analog FM optical link having a low noise figure and a high spurious-free dynamic range. In one embodiment, the apparatus includes a FM DFB laser and a balanced receiver. The balanced receiver includes an optical splitter to split the received beam into two optical paths. Each of the two paths includes an optical filter and a photodetector. A differentiator coupled to the electrical output of the photodetectors produces a demodulated electrical signal in response to the RF

signal used to modulate the DFB laser. This configuration can eliminate the laser relative intensity noise and second order harmonics. In addition, third order distortion is eliminated when there is no intensity modulation or greatly reduced when intensity modulation is present. Abstract.

This reference, like Kim, fails to disclose, suggest or mention anything relating to dispersion compensation.

In summary, neither Kim nor Taylor discloses or suggests the practice of individually dispersion compensating the photodetected upper and lower sidebands as claimed. Accordingly, it is respectfully submitted that claims 23-27 are patentable over the combination of Saito and either Kim or Taylor.

In view of the foregoing, Applicants respectfully submit that claims 1 and 4-29 are patentable over the cited art and allowance of these claims at an early date is solicited.

The Office is hereby authorized to charge any additional fees or credit any overpayments under 37 C.F.R. 1.16 or 1.17 to AT&T Corp. Account No. 01-2745. The Examiner is invited to contact the undersigned at (201) 224-7957 to discuss any matter concerning this application.

Respectfully submitted,
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